Phasedown of Ground-Based Aeronautical Navaids

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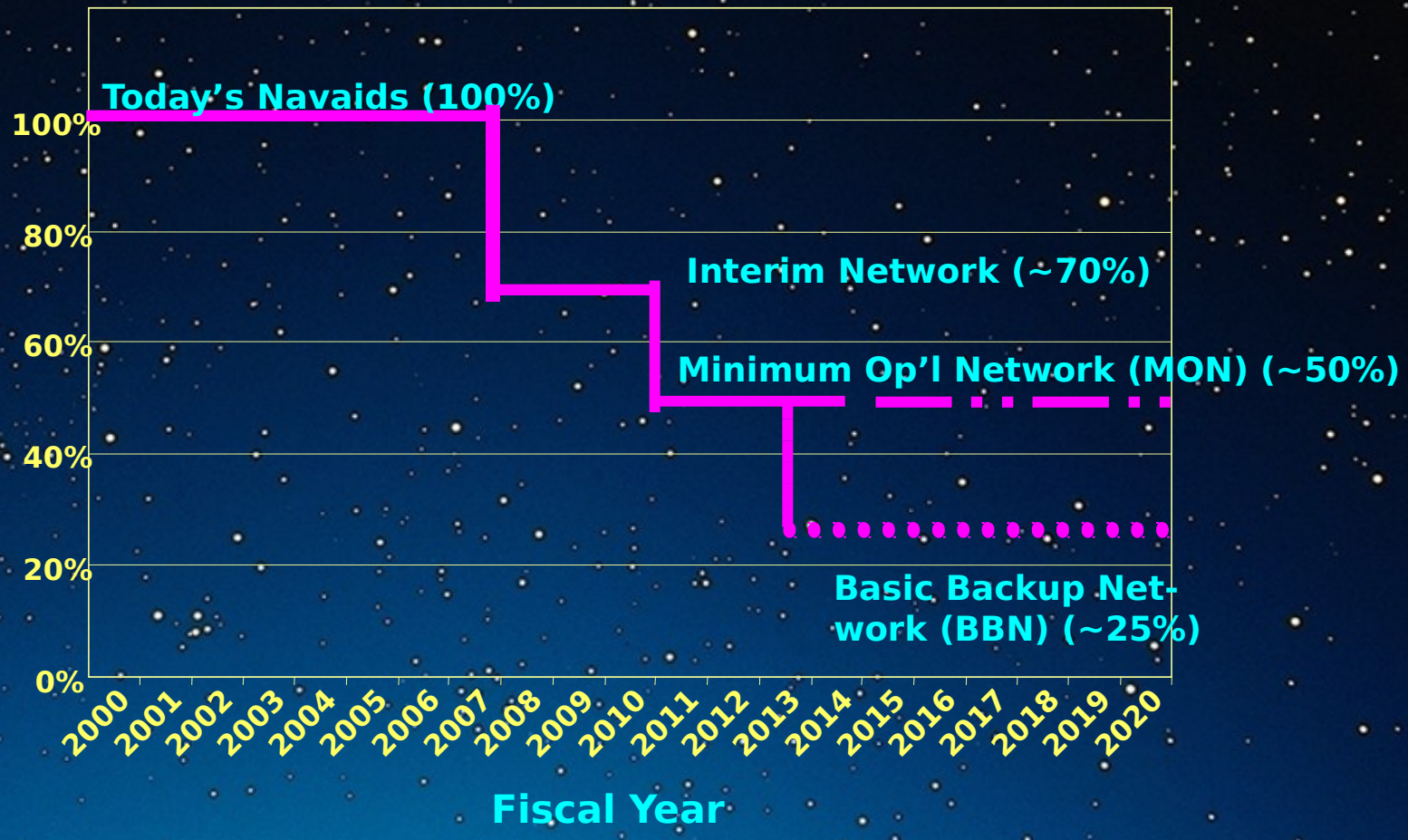
Transition to SatNav

- **FAA plans to transition National Airspace System (NAS)**
  - **primary service provided by SatNav (GPS/WAAS/LAAS)**
  - **ground-based service reduced to match reduced need**
  - **retain some navaids for users choosing to retain conventional avionics**

Planned Navaid Phasedown

- Prerequisites to phasedown
  - SatNav system performance attained
  - procedures published
  - users equipped
- Reduce navaids in gradual steps
  - prevents major disruption to the NAS
  - provides users time to equip

Proposed Phasedown



Navaid Discontinuance Criteria

- Phasedown will be based on user equipage
- Site-specific lists will be based on benefit vs. cost of keeping a navaid operating
- Remaining navaids (MON) will provide a robust operational capability
  - some loss of service to users not yet equipped with SatNav

VOR/DME Phasedown

- Will be based on user need for en route and nonprecision approach (NPA) service
  - factors will include user equipage, weather, and VOR/DME usage level
- Planned to begin in 2008
  - dependent on WAAS capabilities

TACAN Phasedown

- Planned to begin in 2008
- Will be based on DOD's requirements
  - needs close coordination between FAA and DOD

ILS Phasedown

- CAT I - planned to begin in 2008
- CAT II/III - not before 2015
- Will be based on benefit/cost criteria
  - factors will include weather, user equipage, and airport operations

MLS Phasedown

- Can begin when equivalent SatNav procedures are in place and key users are suitably equipped
- Planned to begin in 2008

NDB Phase-Out

- NDB's serve two principal functions
  - standalone NPA at small airports
  - compass locators (LOM's) for ILS
- Phase-out of standalone systems planned to begin in 2008
- NDB's needed as LOM's will be kept until underlying ILS's are withdrawn
- Separate plan may be needed for Alaska

Loran-C

- Operation will continue in short term
- Approved for supplemental en route navigation
  - current receivers don't support instrument approach (NPA) operations

Phasedown Summary

Through 2007

100%

Current Network

~1050 VOR/DME's, 1050 ILS's, & 750 NDB's support en route flight & instrument ops at ~3500 IFR airports

Phase I
2008-2010

~70%

Interim Network

Proposed first step in the phase-down to a Minimum Operational Network. Reduces No. of VOR/DME's & ILS's by about 30%. Most NDB's are retained to support ILS.

Phase II
2011-2012

~50%

Minimum Operational Network

Retains the higher-activity ground-based Navaids to support en route navigation & instrument operations at the busier airports in the NAS. ~600 VOR/DME's, 500 ILS's, &
280 NDB's. ~2400 IFR airports supported by VOR's.

Phase III
2013 & on

~25%

Basic Backup Network

Several hundred VOR/DMEs support radionavigation updates of DME/DME & inertial-equipped aircraft and single-Navaid en route navigation, precision & nonprecision approach at busiest airports in case of SatNav disruption. Some Category I ILS's & all(~100) Category II/III ILS's retained at major airports.

0%